# ICEMA

## **MEMORANDUM**

DATE:

April 10, 2008

TO:

EMS Providers - ALS, BLS, EMS Aircraft

Hospital CEOs, ED Directors, Nurse Managers, PLNs

EMS Training Institutions, EMS CE Providers

Inyo, Mono and San Bernardino County EMCC Members

Other Interested Parties

FROM:

Reza Vergan (1771). ICEM A Medical Pinector

Virginia Hasting

SUBJECT:

FORTY-FIVE (45) DAY PUBLIC COMMENT APRIL 10 - MAY 28, 2008

Trauma Triage Criteria and Destination Policy - Protocol Reference #8005

Adult Trauma Treatment Protocol Reference #8007 Pediatric Trauma Treatment Protocol Reference #8009

Burn Criteria and Destination Policy - Protocol Reference #9001

Adult Burn Treatment Protocol Reference #9003 Pediatric Burn Treatment Protocol Reference #9005

The enclosed policies and protocols listed below have been drafted and sent to you for public comment. They have gone through an extensive review process in the Trauma System Evaluation Committee, Protocol Review Committee, and the Medical Advisory Committee (MAC) over the last seven (7) months. We encourage you to submit any changes you feel are needed, in writing, to ICEMA during the comment period. Written comments will be accepted until Wednesday, May 28, 2008 at 5 P.M. Comments may be sent hardcopy, faxed to 909-388-5825, or via e-mail to <a href="mailto:gcollins@cao.sbcounty.gov">gcollins@cao.sbcounty.gov</a>, Attention: Georgi Collins, R.N. The protocols, comments submitted and any revisions will be presented at the June MAC meeting and to the July Emergency Medical Care Committee meetings held in all three counties.

#### Trauma Triage Criteria and Destination Policy – Protocol Reference #8005

This policy combines adult and pediatric trauma triage criteria. Changes are as follows:

- Adult and pediatric trauma triage criteria have been updated.
- Destination/transportation for those patients who meet trauma triage criteria have been defined.
- Indications and contraindications for EMS aircraft utilization have been added.
- Increase trauma base hospital contact for those patients that may or may not meet trauma triage criteria.
- New language has been added to make trauma base hospital contact for those patients who are refusing care following a traumatic event.
- Burns are referenced in this policy.
- Penetrating trauma arrest guidelines were added.
- This policy must be read from beginning to end.

#### Adult Trauma Treatment - Protocol Reference #8007

This is the new format for treatment protocols. Changes are as follows:

- Burns were removed.
- Changes were made to IV/IO access defining stable vs. unstable. New IV NS infusions for blunt trauma, penetrating trauma and isolated head injury patients.
- Unmanageable airway was defined.
- Pain management documentation requirements, pain medication dosing and route(s) given have been updated.
- Isolated extremity pain relief was updated.

#### Pediatric Trauma Treatment - Protocol Reference #8009

This is the new format for treatment protocols. Changes are as follows:

- Burns were removed.
- Changes were made to IV/IO access defining stable vs. unstable and updated IV NS infusions for stable vs. unstable patients.
- Unmanageable airway was defined.
- Pain management documentation requirements, pain medication dosing and route(s) given have been updated.
- Isolated extremity pain relief was updated.

#### Burn Criteria and Destination Policy - Protocol Reference #9001

This is a new policy. Burns were removed from the trauma policies and protocols. Changes are as follows:

- Burn classification and patient destinations have been implemented.
- Burn patients with associated trauma are defined.

#### Adult Burn Treatment - Protocol Reference #9003

This is the new format for treatment protocols. Changes are as follows:

- Changes were made to IV/IO access defining stable vs. unstable and updated IV NS infusions for stable vs. unstable patients.
- Airway stabilization was defined.
- Pain management documentation requirements, pain medication dosing, and route(s) given have been updated.

#### Pediatric Burn Treatment - Protocol Reference #9005

This is the new format for treatment protocols. Changes are as follows:

- Changes were made to IV/IO access defining stable vs. unstable and updated IV NS infusions for stable vs. unstable patients.
- Airway stabilization was defined.
- Pain management documentation requirements, pain medication dosing, and route(s) given have been updated.

If you have questions regarding these protocols, please do not hesitate to contact Georgi Collins, R.N. at 909-388-5822 or <a href="mailto:gcoo.sbcounty.gov">gcollins@cao.sbcounty.gov</a>.

Thank you for your input.

RV/VH/GC/mae Enc.

REFERENCE: 8005 EFFECTIVE: DRAFT REVIEW: 07/01/10 Page: 1 of 5

**45-Day Public Comment Period 4/10/08 – 5/28/08** 

#### TRAUMA TRIAGE CRITERIA AND DESTINATION POLICY

#### **PURPOSE**

To establish Trauma Triage Criteria that is consistent with the American College of Surgeons standards that will help identify trauma patients in the field, and based upon their injuries, direct their transport to an appropriate trauma hospital.

#### **AUTHORITY**

Health and Safety Code, Division 2.5 California Code of Regulations, Title 22 Chapter 7

#### **DEFINITIONS**

Adult Patients: a person appearing to be  $\geq 15$  years of age.

<u>Pediatric Patients</u>: a person appearing to be < 15 years of age.

<u>Critical Trauma Patients (CTP)</u>: patients meeting ICEMA's Critical Trauma Patient Criteria.

<u>Trauma Hospital</u>: a licensed general acute care hospital designated by ICEMA's Governing Board as a trauma hospital in accordance with State laws and regulations.

<u>Pediatric Trauma Hospital</u>: a licensed acute care hospital which usually treats (but is not limited to) persons <15 years of age, designated by ICEMA's Governing Board, meets all relevant criteria, and has been designated as a pediatric trauma hospital, according to California Code of Regulations, Title 22, Division 9, Chapter 7, Section 100261.

<u>Inadequate Tissue Perfusion</u>: evidenced by the presence of cold, pale, clammy, mottled skin, and/or capillary refill time > 2 seconds. Pulse rate will increase in an attempt to pump more blood. As the pulse gradually increases (tachycardia), it becomes weak and thready. Blood pressure is one of the last signs to change (hypotension). Altered level of consciousness may also be an indicator to inadequate tissue perfusion, especially in the very young.

#### **POLICY**

#### A. TRANSPORTATION: For Patients Identified as a CTP

- 1. Adult patients will be transported to the most appropriate trauma hospital.
- 2. Pediatric patients will be transported to a pediatric trauma hospital when there is less than a twenty (20) minute difference in transport time to the pediatric trauma hospital versus the closest trauma hospital.
- 3. When estimated transport to the most appropriate trauma hospital is thirty (30) minutes or less, ground ambulance shall be the primary means of transport. Distance and estimated time of arrival is based on normal driving or traffic conditions. If an EMS aircraft is dispatched, adherence to the Aircraft Destination Policy #14054 (in San Bernardino County) is mandatory.
- 4. Patients with an unmanageable airway shall be transported to the closest most appropriate receiving hospital for airway stabilization. Trauma base hospital contact shall be made.
- 5. Hospital trauma diversion status: Refer to Protocol #14051 San Bernardino County Hospital Diversion Policy.

#### **45-Day Public Comment Period 4/10/08 – 5/28/08**

- 6. Multi-Casualty Incident: Refer to Protocol #12001 Medical Response to a Multi-Casualty Incident Policy.
- 7. CTP meeting physiologic or anatomic criteria with associated burns will be transported to the most appropriate trauma hospital.

#### **B. CRITICAL TRAUMA PATIENT CRITERIA (CTP)**

A patient shall be transported to the most appropriate trauma hospital when any one of the following physiologic and/or anatomic criteria is present following a traumatic event (trauma base hospital contact shall be made):

## 1. Physiologic

INDICATORS	ADULT	PEDIATRIC	
Glasgow Coma Scale (GCS)	• GCS ≤ 13	• GCS ≤ 13	
Level of Consciousness (LOC)	• LOC > 3 minutes	• any LOC	
Respiratory	<ul> <li>requiring assistance with ventilation or</li> <li>hypoxic = O<sub>2</sub> saturation that is consistently &lt; 90% and a</li> <li>RR &lt; 10 or &gt; 29</li> </ul>	<ul> <li>requiring assistance with ventilation or</li> <li>hypoxic = O<sub>2</sub> saturation that is consistently &lt; 90% and a</li> <li>&lt; 10 years: RR &lt; 12 or &gt; 40</li> <li>&lt; 1 year: RR &lt; 20 or &gt; 60</li> </ul>	
Hypotension	<ul> <li>exhibits inadequate tissue perfusion</li> <li>BP &lt; 90mmHG</li> <li>tachycardia</li> </ul>	exhibits inadequate tissue perfusion     abnormal vital signs (according to age)	

#### 2. Anatomic

Danatuating Injuries to	• torse	• neck
Penetrating Injuries to:	• torso	
	• head	• groin
	<ul> <li>extremity proximal to the</li> </ul>	
	knee or elbow	
Blunt Chest Trauma resulting in:	• ecchymosis	• flail chest
	<ul> <li>unstable chest wall</li> </ul>	
<b>Severe Tenderness to:</b>	• head	• abdomen
	• neck	• pelvis
	• torso	
Paralysis:	• traumatic	<ul> <li>suspected spinal cord</li> </ul>
	<ul> <li>loss of sensation</li> </ul>	injury
Abdomen:	• tenderness with firm and rigid abdomen on examination	
<b>Amputations:</b>	• above the wrist • above the ankle	
Fractures:	ADULT	PEDIATRIC
	evidence of two or more	open fractures
	proximal long bone fractures	• two or more long bone
	(femur, humerus)	fractures
Skull Deformity		•
Major Tissue Disruption		
Suspected Pelvic Fracture		

04/01/08gc

**REFERENCE: 8005** 

Page:

2 of 5

REFERENCE: 8005 Page: 3 of 5

#### **45-Day Public Comment Period 4/10/08 – 5/28/08**

#### 3. Mechanism of Injury

- If a patient has one or more of the following mechanisms of injury <u>with</u> any of the above physiologic or anatomic criteria transport to the most appropriate trauma hospital.
- If there are no associated physiologic or anatomic criteria and the potential CTP meets one or more of the following mechanisms of injury, contact a trauma base hospital for physician consultation to determine the appropriate patient destination. In some cases, a trauma base hospital may direct a patient to the most appropriate receiving hospital.

High Speed Crash:	<ul> <li>initial speed &gt; 40mph</li> <li>major auto deformity &gt; 18 inches</li> <li>intrusion into passenger space compartment &gt; 12 inches</li> </ul>	<ul> <li>unrestrained passenger</li> <li>front axle rearward displaced</li> <li>bent steering wheel/column starred windshield</li> </ul>
Vehicle Rollover:	<ul><li>complete rollover</li><li>rollover multiple times</li><li>unrestrained</li></ul>	<ul> <li>restrained with significant injuries or high rate of speed</li> </ul>
Motorcycle Crash:	• > 20 mph and/or	• separation of rider from the bike with significant injury
Pedestrian:	<ul> <li>auto-pedestrian with significant impact &gt; 10mph</li> <li>auto-bicycle with significant impact &gt; 10 mph</li> </ul>	• pedestrian thrown >15 feet or run over
Significant Blunt Trauma to:	• head • neck	• torso
<b>Extrication:</b>	• > 20 minutes with associated injuries	
Death of Occupant:	• in same passenger space	
<b>Ejection:</b>	partial or complete ejection of patient from vehicle	
Falls:	ADULT	<i>PEDIATRI</i> C
	• ≥ 15 feet	• > 3 times the child's height or > 10 feet
Submersion with Trauma		·

#### 4. Age and Co-Morbid Factors

If the patient does not meet any of the above criteria, make trauma base hospital contact to determine if a trauma hospital is appropriate for the following patients:

- pediatric < 9 years of age
- adult > 65 years of age
- have known underlying respiratory, cardiac, liver disease, or diabetes
- have known underlying hematologic or immunosuppressive conditions
- isolated extremity injury with neurovascular compromise (time sensitive injury)
- pregnant (greater than 20 weeks in gestation) inability to communicate, e.g. language, psychological and/or substance impairment

REFERENCE: 8005 Page: 4 of 5

#### **45-Day Public Comment Period 4/10/08 – 5/28/08**

#### C. EXCEPTIONS

The patient is identified as a CTP or a potential CTP, but presents with the following:

Unmanageable Airway: Transport to the closest most appropriate receiving hospital when the patient:	<ul> <li>REQUIRES INTUBATION</li> <li>an adequate airway cannot be maintained with a BVM device;</li> <li>AND</li> <li>the paramedic is unable to intubate or if indicated, perform a successful needle cricothyrotomy.</li> </ul>
<ul> <li>Severe Blunt Force Trauma</li> <li>Arrest:</li> <li>Refer to Protocol #14007</li> <li>Determination of Death on Scene</li> </ul>	IF INDICATED: Transport to the closest receiving hospital
Penetrating Trauma Arrest:  Refer to Protocol #14007 Determination of Death on Scene	IF INDICATED: Transport to the closest receiving hospital

- If the patient does not meet the "Obvious Death Criteria" in the "Determination of Death on Scene" Protocol #14007, contact the trauma base hospital for determination of death on scene for those patients who suffer a traumatic cardiac arrest in the setting of penetrating trauma with documented asystole in at least two (2) leads, and no reported vital signs (palpable pulse and/or spontaneous respirations) during the EMS encounter with the patient.
- Resuscitation efforts on a penetrating traumatic arrest victim are not to be terminated without trauma base hospital contact.

Burn Patients:  Refer to Protocol #9001 Burn Criteria and Destination Policy	Transport to most appropriate trauma hospital	Transport to an appropriate receiving hospital or a Burn Center
	Burn patients meeting CTP	Burn patients not meeting CTP
EMS Aircraft Indications:  An EMS aircraft may be dispatched for the following events:	<ul> <li>MCI</li> <li>Prolonged extrication time (&gt; twenty (20) minutes)</li> <li>Do Not Delay Patient Transport waiting for an enroute EMS aircraft</li> </ul>	
EMS Aircraft Transport Contraindications:  The following are contraindications for EMS aircraft patient transportation:	<ul> <li>Patients contaminated with Hazardous Material who cannot be decontaminated and who pose a risk to the safe operations of the EMS aircraft and crew</li> <li>Violent patients with psychiatric behavioral problems and uncooperative patients under the influence of alcohol and/or mind altering substances who may interfere with the safe operations of an EMS aircraft during flight</li> <li>Stable patients</li> <li>Ground transport is &lt; 30 minutes</li> <li>Other safety conditions as determined by pilot and/or crew</li> </ul>	
Remote Locations:	Remote locations may be exempted from specific criteria upon written permission from the EMS Medical Director.	

REFERENCE: 8005 Page: 5 of 5

#### **45-Day Public Comment Period 4/10/08 – 5/28/08**

#### D. CONSIDERATIONS

- 1. Scene time should be limited to ten (10) minutes under normal circumstances.
- 2. Burn patients with associated trauma, in which the burn injury poses the greatest risk of morbidity or mortality, should be **considered** for transport to the closest most appropriate Burn Center. Trauma base hospital contact shall be made.

#### E. RADIO CONTACT

- 1. If not contacted at scene, the receiving trauma hospital must be notified as soon as possible in order to activate the trauma team.
- 2. For patients meeting Trauma Triage Criteria (Physiologic, Anatomic, Mechanism of Injury, and/or Age and Co-Morbid Factors), a trauma base hospital shall be contacted in the event of patient refusal of assessment, care, and/or transportation.
- 3. In Inyo and Mono Counties, the assigned base hospital should be contacted for CTP consultation.

REFERENCE: 8007 EFFECTIVE: DRAFT REVIEW: 07/01/10 Page: 1 of 4

**45-Day Public Comment Period 4/10/08 – 5/28/08** 

#### **ADULT TRAUMA**

15 Years of Age and Older

Any critical trauma patient (CTP) requires expeditious packaging, communication, and transportation to the most appropriate trauma hospital. In Inyo and Mono Counties, the assigned base hospital should be contacted. If not contacted at scene, the receiving trauma hospital must be notified as soon as possible in order to activate the trauma team.

#### FIELD ASSESSMENT/TREATMENT INDICATORS

Trauma Triage Criteria and Destination Policy #8005

#### ADULT TREATMENT PROTOCOL: TRAUMA

#### **Base Hospital Contact Shaded in Gray**

BLS INTERVENTIONS	ALS INTERVENTIONS
<ul> <li>Assess environment and extrication as indicated</li> <li>Ensure thorough initial assessment</li> <li>Ensure patent airway, protecting cervical spine</li> <li>Axial spinal stabilization as appropriate</li> <li>Oxygen and/or ventilate as needed, O<sub>2</sub> saturation (if BLS equipped)</li> <li>Control obvious bleeding</li> <li>Keep patient warm</li> <li>For a traumatic full arrest, an AED may be utilized, if indicated</li> <li>Transport to ALS intercept or to the closest most appropriate receiving hospital</li> <li>Assemble necessary equipment for ALS procedures under direction of EMT-P and/or assemble pre-load medications as directed, excluding controlled substances</li> </ul>	<ul> <li>•Advanced airway as indicated Unmanageable Airway: Transport to the closest most appropriate receiving hospital when the patient: REQUIRES INTUBATION  1. an adequate airway cannot be maintained with a BVM device; AND  2. the paramedic is unable to intubate or if indicated, perform a successful needle cricothyrotomy.</li> <li>•Monitor ECG</li> <li>•IV/IO Access: Warm IV fluids when available. Unstable: BP&lt;90mmHG and/or signs of inadequate tissue perfusion, start 2<sup>nd</sup> IV access. Stable: BP&gt;90mmHG and/or signs of adequate tissue perfusion. Blunt Trauma: Unstable: IV NS open until stable or 2000ml maximum is infused Stable: IV NS TKO Penetrating Trauma: Unstable: IV NS 500ml bolus one time Stable: IV NS TKO Isolated Closed Head Injury: Unstable: IV NS 250ml bolus, may repeat to a maximum of 500ml Stable: IV NS TKO</li> </ul>

#### **45-Day Public Comment Period 4/10/08 – 5/28/08**

#### **BLS** Continued

#### Manage Special Considerations:

**Abdominal Trauma:** Cover eviscerated organs with saline dampened gauze. Do not attempt to replace organs into the abdominal cavity.

<u>Amputations</u>: Control bleeding. Rinse amputated part gently with sterile irrigation saline to remove loose debris/gross contamination. Place amputated part in dry, sterile gauze and in a plastic bag surrounded by ice (if available). Prevent direct contact with ice. Document in narrative that amputated part was given to a designated staff/trauma member.

• <u>Partial amputation</u>: Splint in anatomic position and elevate the extremity.

<u>Chest Trauma:</u> If a wound is present, cover it with an occlusive dressing. If the patient's ventilations are being assisted, dress wound loosely (do not seal). Continuously re-evaluate patient for the development of tension pneumothorax.

<u>Flail Chest:</u> Stabilize chest, observe for tension pneumothorax. Consider assisted ventilations.

**Fractures:** Immobilize above and below the injury. Apply splint to injury in position found except:

- **Femur**: Apply traction splint if indicated.
- <u>Grossly angulated long bone with distal</u> <u>neurovascular compromise</u>: Apply gentle unidirectional traction to improve circulation.
- Check distal pulse before and after positioning.

#### ALS Continued

- •Transport to appropriate hospital
- •Insert nasogastric/orogastric tube as indicated

#### Manage Special Considerations:

<u>Chest Trauma:</u> Perform needle thoracostomy for chest trauma with symptomatic respiratory distress.

#### **Fractures**:

• <u>Isolated Extremity Trauma</u>: Trauma <u>without multisystem mechanism</u>. Extremity trauma is defined as those cases of injury where the limb itself and/or the appendicular skeleton (shoulder or pelvic girdle) may be injured – e.g. dislocated shoulder, hip fracture or dislocation.

IV Pain Relief: Morphine Sulfate 5mg IV slowly and may repeat every 5 minutes to a maximum of 20mg when the patient maintains a BP>90mmHG and signs of adequate tissue perfusion. Document BP's every 5 minutes while medicating for pain and reassess the patient.

<u>NOTE:</u> Patients in high altitudes should be hydrated with IV NS prior to IV pain relief to reduce symptoms of nausea and vomiting.

<u>IM Pain Relief:</u> Morphine Sulfate 10mg IM. Document vital signs and reassess the patient.

#### REFERENCE: 8007 Page: 3 of 4

#### **45-Day Public Comment Period 4/10/08 – 5/28/08**

#### BLS Continued

<u>Genital Injuries:</u> Cover genitalia with saline soaked gauze. If necessary, apply direct pressure to control bleeding. Treat amputations the same as extremity amputations.

<u>Head and Neck Trauma</u>: Place brain injured patients in reverse Trendelenburg (elevate the head of the backboard 15-20 degrees), if the patient exhibits no signs of shock.

- Eye: Whenever possible protect an injured eye with a rigid dressing, cup or eye shield. Do not attempt to replace a partially torn globe stabilize it in place with sterile saline soaked gauze. Cover uninjured eye.
- <u>Avulsed Tooth</u>: Collect teeth, place in moist, sterile saline gauze and place in a plastic bag.

<u>Impaled Object</u>: Immobilize and leave in place. Remove object if it interferes with CPR, or if the object is impaled in the face, cheek or neck and is compromising ventilations.

**Pregnancy**: Where axial spinal stabilization precaution is indicated, the board should be elevated at least 4 inches on the right side for those patients who have a large pregnant uterus, usually applies to pregnant females  $\geq 24$  weeks of gestation.

<u>Traumatic Arrest</u>: CPR if indicated. May utilize an AED if indicated.

**Determination of Death on Scene**: Refer to Protocol # 14007 Determination of Death on Scene.

#### ALS Continued

<u>Head and Neck Trauma</u>: Immediately prior to intubation, consider prophylactic Lidocaine 1.5 mg/kg IV for suspected head/brain injury.

- •Base Hospital Orders:
- o When considering nasotracheal intubation (≥15 years of age) and significant facial trauma, trauma to the face or nose and/or possible basilar skull fracture are present, trauma base hospital contact is required.

<u>Impaled Object</u>: Remove object upon trauma base physician order, if indicated.

<u>Traumatic Arrest</u>: Continue CPR as appropriate. Do not air evacuate patients in traumatic arrest.

 Monitor V-Fib or V-tach, defibrillate as per ACLS guidelines and ICEMA Policies.

<u>Determination of Death on Scene</u>: Refer to Protocol # 14007 Determination of Death on Scene.

#### -Severe Blunt Force Trauma Arrest:

**IF INDICATED:** transport to the closest receiving hospital.

#### -Penetrating Trauma Arrest:

**IF INDICATED:** transport to the closest receiving hospital.

• If the patient does not meet the "Obvious Death Criteria" in the "Determination of Death on Scene" Protocol #14007, contact the trauma base hospital for determination of death on scene for those patients who suffer a traumatic cardiac arrest

## **45-Day Public Comment Period 4/10/08 – 5/28/08**

BLS Continued	ALS Continued
	<ul> <li>in the setting of penetrating trauma with documented asystole in at least two (2) leads, and no reported vital signs (palpable pulse and/or spontaneous respirations) during the EMS encounter with the patient.</li> <li>Resuscitation efforts on a penetrating traumatic arrest victim are not to be terminated without trauma base hospital contact.</li> </ul>
	• Precautions and Comments:
	<ul> <li>Electrical injuries that result in cardiac arrest shall be treated as medical arrests.</li> <li>Confirm low blood sugar in children and treat as indicated with altered level of consciousness.</li> <li>Suspect child maltreatment when physical findings are inconsistent with the history. Remember reporting requirements for suspected child maltreatment.</li> <li>Unsafe scene may warrant transport despite low potential for survival.</li> <li>Whenever possible, consider minimal disturbance of a potential crime scene.</li> <li>Base Hospital Orders: May order additional:         <ul> <li>medications;</li> <li>fluid boluses.</li> </ul> </li> </ul>

## REFERENCE PROTOCOLS

Protocol	
<u>Number</u>	Protocol Name
1001	General Patient Care Guidelines
4001	External Jugular Vein Access
4009	Oral Endotracheal Intubation
4021	Insertion of Nasogastric/Orogastric Tube
4023	Needle Thoracostomy
4026	Intraosseous Infusion IO
4029	Nasotracheal Intubation
4030	Needle Cricothyrotomy
4035	Axial Spinal Stabilization
4050	Esophageal Tracheal Airway Device
6015	Adult Cardiac Arrest
8005	Trauma Triage Criteria and Destination Policy
8215	Fractures and Dislocations
14007	Determination of Death on Scene

REFERENCE: 8009 EFFECTIVE: DRAFT REVIEW: 07/01/10 Page: 1 of 4

**45-Day Public Comment Period 4/10/08 – 5/28/08** 

#### PEDIATRIC TRAUMA

Less than 15 Years of Age

Any critical trauma patient (CTP) requires expeditious packaging, communication, and transportation to the most appropriate trauma hospital. In Inyo and Mono Counties, the assigned base hospital should be contacted. If not contacted at scene, the receiving trauma hospital must be notified as soon as possible in order to activate the trauma team.

#### FIELD ASSESSMENT/TREATMENT INDICATORS

Trauma Triage Criteria and Destination Policy #8005

#### PEDIATRIC TREATMENT PROTOCOL: TRAUMA

#### **Base Hospital Contact Shaded in Gray**

BLS INTERVENTIONS	ALS INTERVENTIONS
<ul> <li>Assess environment and extrication as indicated</li> <li>Ensure thorough initial assessment</li> <li>Ensure patent airway, protecting cervical spine</li> <li>Axial spinal stabilization as appropriate</li> <li>Oxygen and/or ventilate as needed, O<sub>2</sub> saturation (if BLS equipped)</li> <li>Control obvious bleeding</li> <li>Keep patient warm and provide reassurance</li> <li>For a traumatic full arrest, an AED may be utilized, if indicated</li> <li>Transport to ALS intercept or to the closest most appropriate receiving hospital</li> <li>Assemble necessary equipment for ALS procedures under direction of EMT-P and/or assemble pre-load medications as directed, excluding controlled substances.</li> </ul>	<ul> <li>Advanced airway as indicated Unmanageable Airway: Transport to the closest most appropriate receiving hospital when the patient: REQUIRES INTUBATION  1. an adequate airway cannot be maintained with a BVM device; AND  2. the paramedic is unable to intubate or if indicated, perform a successful needle cricothyrotomy (&gt;2yrs old).</li> <li>•Monitor ECG</li> <li>•IV/IO Access: Warm IV fluids when available. Unstable: Vital signs (age appropriate) and/or signs of inadequate tissue perfusion, start 2<sup>nd</sup> IV access.</li> <li>• Administer 20ml/kg NS bolus IV/IO, may repeat once.</li> <li>Stable: Vital signs (age appropriate) and/or signs of adequate tissue perfusion.</li> <li>• Maintain IV NS rate at TKO.</li> <li>• Transport to appropriate hospital: Pediatric patients identified as a CTP will be transported to a pediatric trauma hospital when there is less than a 20 minute difference in transport time to the pediatric trauma hospital versus the closest trauma hospital.</li> <li>• Insert nasogastric/orogastric tube as indicated</li> </ul>

REFERENCE: 8009 Page: 2 of 4

#### **45-Day Public Comment Period 4/10/08 – 5/28/08**

#### BLS Continued

#### Manage Special Considerations:

<u>Abdominal Trauma</u>: Cover eviscerated organs with saline dampened gauze. Do not attempt to replace organs into the abdominal cavity.

Amputations: Control bleeding. Rinse amputated part gently with sterile irrigation saline to remove loose debris/gross contamination. Place amputated part in dry, sterile gauze and in a plastic bag surrounded by ice (when available). Prevent direct contact with ice. Document in narrative that amputated part was given to a designated staff/trauma member.

• <u>Partial amputation:</u> Splint in anatomic position and elevate the extremity.

Blunt Chest Trauma: If a wound is present, cover it with an occlusive dressing. If patient's ventilations are being assisted, dress wound loosely (do not seal). Continuously re-evaluate patient for the development of tension pneumothorax.

<u>Flail Chest</u>: Stabilize chest, observe for tension pneumothorax. Consider assisted ventilations.

**Fractures:** Immobilize above and below the injury. Apply splint to injury in position found except:

- Femur: Apply traction splint, if indicated.
- Grossly angulated long bone with distal neurovascular compromise: Apply gentle unidirectional traction to improve circulation.
- Check distal pulse before and after positioning.

#### ALS Continued

#### Manage Special Considerations:

**<u>Blunt Chest Trauma:</u>** Perform needle thoracostomy for chest trauma with symptomatic respiratory distress.

#### **Fractures**:

•Isolated Extremity Trauma: Trauma without multisystem mechanism. Extremity trauma is defined as those cases of injury where the limb itself and/or the appendicular skeleton (shoulder or pelvic girdle) may be injured — e.g. dislocated shoulder, hip fracture or dislocation.

IV Pain Relief: Morphine Sulfate 0.1mg/kg IV/IO slowly, do not exceed 5mg increments, may repeat every 5 minutes to a maximum of 20mg IV/IO when the patient maintains age appropriate vital signs and adequate tissue perfusion. Document vital signs every 5 minutes while medicating for pain, and reassess the patient.

<u>NOTE:</u> Patients in high altitudes should be hydrated with IV NS prior to IV pain relief to reduce symptoms of nausea and vomiting.

<u>IM Pain Relief:</u> Morphine Sulfate 0.2mg/kg IM, 10mg IM maximum. Document vital signs and reassess the patient.

#### REFERENCE: 8009 Page: 3 of 4

#### **45-Day Public Comment Period 4/10/08 – 5/28/08**

#### **BLS** Continued

<u>Genital Injuries:</u> Cover genitalia with saline soaked gauze. If necessary, apply direct pressure to control bleeding. Treat amputations the same as extremity amputations.

<u>Head and Neck Trauma</u>: Place brain injured patients in reverse Trendelenburg (elevate the head of the backboard 15-20 degrees), if the patient exhibits no signs of shock.

- Eye: Whenever possible protect an injured eye with a rigid dressing, cup or eye shield. Do not attempt to replace a partially torn globe stabilize it in place with sterile saline soaked gauze. Cover uninjured eye.
- <u>Avulsed Tooth</u>: Collect teeth, place in moist, sterile saline gauze and place in a plastic bag.

<u>Impaled Object</u>: Immobilize and leave in place. Remove object if it interferes with CPR, or if the object is impaled in the face, cheek or neck and is compromising ventilations.

<u>Pediatric patients</u>: If the level of the patient's head is greater than that of the torso, use approved pediatric spine board with a head drop or arrange padding on the board so that the ears line up with the shoulders and keep the entire lower spine and pelvis in line with the cervical spine and parallel to the board.

<u>Traumatic Arrest</u>: CPR if indicated. May utilize an AED if indicated.

<u>Determination of Death on Scene</u>: Refer to Protocol # 14007 Determination of Death on Scene.

#### ALS Continued

<u>Head and Neck Trauma</u>: Immediately prior to intubation, consider prophylactic Lidocaine 1.5 mg/kg IV for suspected head/brain injury.

<u>Impaled Object</u>: Remove object upon trauma base physician order, if indicated.

<u>Traumatic Arrest</u>: Continue CPR as appropriate. Do not air evacuate patients in traumatic arrest.

• Monitor V-Fib or V-tach, defibrillate as per ACLS guidelines and ICEMA Policies.

<u>Determination of Death on Scene</u>: Refer to Protocol # 14007 Determination of Death on Scene.

#### -Severe Blunt Force Trauma Arrest:

**IF INDICATED:** transport to the closest receiving hospital.

#### -Penetrating Trauma Arrest:

**IF INDICATED:** transport to the closest receiving hospital.

• If the patient does not meet the "Obvious Death Criteria" in the "Determination of Death on Scene" Protocol #14007, contact the trauma base hospital for determination of death on scene for those patients who suffer a traumatic cardiac arrest

#### REFERENCE: 8009 Page: 4 of 4

## **45-Day Public Comment Period 4/10/08 – 5/28/08**

BLS Continued	ALS Continued
	<ul> <li>in the setting of penetrating trauma with documented asystole in at least two (2) leads, and no reported vital signs (palpable pulse and/or spontaneous respirations) during the EMS encounter with the patient.</li> <li>Resuscitation efforts on a penetrating traumatic arrest victim are not to be terminated without</li> </ul>
	trauma base hospital contact.
	• Precautions and Comments:
	<ul> <li>Electrical injuries that result in cardiac arrest shall be treated as medical arrests.</li> <li>Confirm low blood sugar in children and treat as indicated with altered level of consciousness.</li> <li>Suspect child maltreatment when physical findings are inconsistent with the history. Remember reporting requirements for suspected child maltreatment.</li> <li>Unsafe scene may warrant transport despite low potential for survival.</li> </ul>
	<ul> <li>Whenever possible, consider minimal disturbance of a potential crime scene.</li> </ul>
	Base Hospital Orders: May order additional:
	<ul><li>medications;</li><li>fluid boluses.</li></ul>

## REFERENCE PROTOCOLS

Protocol	
<u>Number</u>	Protocol Name
1001	General Patient Care Guidelines
4001	External Jugular Vein Access
4011	Oral Endotracheal Intubation - Pediatric
4021	Insertion of Nasogastric/Orogastric Tube
4023	Needle Thoracostomy
4026	Intraosseous Infusion IO
4029	Nasotracheal Intubation
4030	Needle Cricothyrotomy
4035	Axial Spinal Stabilization
7001	Pediatric Cardiac Arrest
7007	Pediatric Altered Level of Consciousness
8005	Trauma Triage Criteria and Destination Policy
8215	Fractures and Dislocations
14004	Reporting Incidents of Suspected Child, Dependent Adult, or elder Abuse/Neglect
14007	Determination of Death on Scene

REFERENCE: 9001 EFFECTIVE: DRAFT REVIEW: 07/01/10 Page: 1 of 3

**45-Day Public Comment Period 4/10/08 – 5/28/08** 

#### **BURN CRITERIA AND DESTINATION POLICY**

#### **PURPOSE**

To ensure the appropriate destination of patients sustaining burn injuries.

#### **AUTHORITY**

Health and Safety Code Sections 1797.220, 1797.222 & 1798

California Code of Regulations, Title 22, Division 9, Sections 100144, 100304, 100107, 100128, 100175A2

#### **DEFINITIONS**

Adult Patients: a person appearing to be  $\geq 15$  years of age.

<u>Pediatric Patients</u>: a person appearing to be < 15 years of age.

<u>Burn Patients</u>: patients meeting ICEMA's burn classifications, minor, moderate or major.

Critical Trauma Patients (CTP): patients meeting ICEMA's Critical Trauma Patient Criteria.

Trauma Hospital: a licensed general acute care hospital designated by ICEMA's Governing Board as a trauma

hospital in accordance with State laws and regulations.

#### **POLICY**

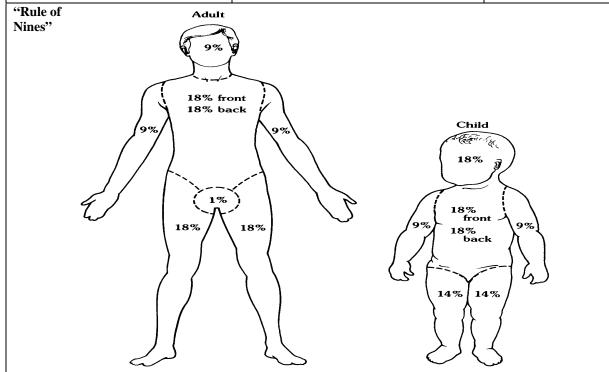
#### A. TRANSPORTATION

- 1. Burn patients meeting minor or moderate classifications will be transported to the closest most appropriate receiving hospital.
- 2. Burn patients meeting major burn classification will be transported to the closest most appropriate burn center (in San Bernardino County contact ARMC).
- 3. Burn patients meeting the physiologic or anatomic criteria for CTP will be transported to the most appropriate trauma hospital, Refer to Protocol #8005, Trauma Triage Criteria and Destination Policy.
- 4. Pediatric burn patients identified as a CTP will be transported to a pediatric trauma hospital when there is less than a twenty (20) minute difference in transport time to the pediatric trauma hospital versus the closest trauma hospital.
- 5. When estimated transport to the most appropriate trauma hospital (for patients identified as a CTP) is thirty (30) minutes or less, ground ambulance shall be the primary means of transport. Distance and estimated time of arrival is based on normal driving and traffic conditions. If an EMS aircraft is dispatched, adherence to the Aircraft Destination Policy #14054 (in San Bernardino County) is mandatory.
- 6. Burn patients with respiratory compromise, or potential for such, will be transported to the closest most appropriate receiving hospital for airway stabilization.
- 7. Hospital trauma diversion status: Refer to Protocol #14051 San Bernardino County Hospital Diversion Policy.
- 8. Paramedics may contact the base hospital or trauma base hospital for destination consultation on any patient that does not meet any of the above criteria, but who, in the paramedic's opinion, would be more appropriately serviced by direct transport to a burn center.

## **45-Day Public Comment Period 4/10/08 – 5/28/08**

## **B. BURN CLASSIFICATIONS**

ADULT BURN CLASSIFICATION CHART	PEDIATRIC BURN CLASSIFICATION CHART	DESTINATION
MINOR – ADULT  • < 10% TBSA • < 2% Full Thickness	MINOR - PEDIATRIC  • < 5% TBSA • < 2% Full Thickness	CLOSEST MOST APPROPRIATE RECEIVING HOSPITAL
MODERATE – ADULT  • 10 - 20% TBSA • 2 - 5% Full Thickness • High Voltage Injury • Suspected Inhalation Injury • Circumferential Burn • Medical problem predisposing to infection (e.g., diabetes mellitus, sickle cell disease)	MODERATE - PEDIATRIC  • 5 – 10% TBSA • 2 – 5% Full Thickness • High Voltage Injury • Suspected Inhalation Injury • Circumferential Burn • Medical problem predisposing to infection (e.g., diabetes mellitus, sickle cell disease)	CLOSEST MOST APPROPRIATE RECEIVING HOSPITAL
MAJOR – ADULT  • >20% TBSA burn in adults • > 5% Full Thickness • High Voltage Burn • Known Inhalation Injury • Any significant burn to face, eyes, ears, genitalia, or joints	<ul> <li>MAJOR - PEDIATRIC</li> <li>&gt; 10% TBSA</li> <li>&gt; 5% Full Thickness</li> <li>High Voltage Burn</li> <li>Known Inhalation Injury</li> <li>Any significant burn to face, eyes, ears, genitalia, or joints</li> </ul>	CLOSEST MOST APPROPRIATE BURN CENTER  In San Bernardino County, contact: Arrowhead Regional Medical Center (ARMC)



REFERENCE: 9001 Page: 3 of 3

#### **45-Day Public Comment Period 4/10/08 – 5/28/08**

#### **C. EXCEPTIONS:**

The burn patient who presents with the following:

Airway Stabilization:  Transport to the closest most appropriate receiving hospital for airway stabilization when the patient:	has respiratory compromise, or potential for compromise	
Transport to the closest most appropriate receiving hospital when the patient:	<ul> <li>has deteriorating vital signs</li> <li>is pulseless and apneic</li> </ul>	
EMS Aircraft Indications:  An EMS aircraft may be dispatched for the following events:	<ul> <li>MCI</li> <li>Prolonged extrication time (&gt; twenty (20) minutes)</li> <li>Do Not Delay Patient Transport waiting for an enroute EMS aircraft</li> </ul>	
EMS Aircraft Transport Contraindications:  The following are contraindications for EMS aircraft patient transportation:	<ul> <li>Patients contaminated with Hazardous Material who cannot be decontaminated and who pose a risk to the safe operations of the EMS aircraft and crew</li> <li>Violent patients with psychiatric behavioral problems and uncooperative patients under the influence of alcohol and/or mind altering substances who may interfere with the safe operations of an EMS aircraft during flight</li> <li>Stable patients</li> <li>Ground transport is &lt; 30 minutes</li> <li>Other safety conditions as determined by pilot and/or crew</li> </ul>	
Remote Locations:	Remote locations may be exempted from specific criteria upon written permission from the EMS Medical Director	

#### D. CONSIDERATIONS

- 1. Scene time should be limited to ten (10) minutes under normal circumstances.
- 2. Burn patients with associated trauma, in which the burn injury poses the greatest risk of morbidity or mortality should be **considered** for transport to the closest most appropriate Burn Center. Trauma base hospital contact shall be made.

#### E. RADIO CONTACT

- 1. If not contacted at scene, the receiving trauma hospital must be notified as soon as possible in order to activate the trauma team.
- 2. For patients meeting Trauma Triage Criteria (Physiologic, Anatomic, Mechanism of Injury, and/or Age and Co-Morbid Factors), a trauma base hospital shall be contacted in the event of patient refusal of assessment, care, and/or transportation.
- 3. In Inyo and Mono Counties, the assigned base hospital should be contacted for CTP consultation.

REFERENCE: 9003 EFFECTIVE: DRAFT REVIEW: 07/01/10 Page: 1 of 4

**45-Day Public Comment Period 4/10/08 – 5/28/08** 

#### ADULT BURNS

15 Years of Age and Older

Any burn patient meeting Burn Classifications requires expeditious packaging, communication and transportation to the closest most appropriate receiving hospital.

#### FIELD ASSESSMENT/TREATMENT INDICATORS

Burn Criteria and Destination Policy #9001

#### ADULT TREATMENT PROTOCOL: BURNS

#### **Base Hospital Contact Shaded in Gray**

#### **BLS INTERVENTIONS ALS INTERVENTIONS** Assess environment and extrication as indicated Advanced airway as indicated Airway Stabilization: Burn patients with • Break contact with causative agent (stop the respiratory compromise, or potential for such, will burning process) be transported to the closest most appropriate • Ensure patent airway, protecting cervical spine as receiving hospital for airway stabilization. indicated • Monitor ECG • Remove clothing and jewelry quickly, if indicated • IV/IO Access: Moderate to Severe Burns. Warm • Ensure thorough initial assessment IV fluids when available. • Oxygen and/or ventilate as needed, O<sub>2</sub> saturation **Unstable:** (if BLS equipped) BP<90mmHG and/or signs of inadequate tissue • Axial spinal stabilization as appropriate perfusion, start 2<sup>nd</sup> IV access. • Treat other life threatening injuries o IV NS 250ml boluses, may repeat to a maximum of 1000ml. • Keep patient warm • Estimate % TBSA burned and depth using the Stable: "Rule of Nines" BP>90mmHG and/or signs of adequate tissue o An individual's palm represents 1% of TBSA perfusion. and can be used to estimate scattered, irregular o IV NS 500ml/hour burns •Treat pain as indicated • Transport to ALS intercept or to the closest most **IV Pain Relief:** Morphine Sulfate 5mg IV slowly appropriate receiving hospital and may repeat every 5 minutes to a maximum of • Assemble necessary equipment for ALS procedures 20mg when the patient maintains a BP>90mmHG under direction of EMT-P and/or assemble pre-load and signs of adequate tissue perfusion. Document medications as directed, excluding controlled BP's every 5 minutes while medicating for pain and substances reassess the patient. IM Pain Relief: Morphine Sulfate 10mg IM. Document vital signs and reassess the patient.

Adult Burns REFERENCE: 9003 Page: 2 of 4

#### **45-Day Public Comment Period 4/10/08 – 5/28/08**

#### BLS Continued

#### ALS Continued

• Transport to appropriate facility:

<u>Minor Burn Classification</u>: transport to the closest most appropriate receiving hospital.

<u>Moderate Burn Classification</u>: transport to the closest most appropriate receiving hospital.

<u>Major Burn Classification</u>: transport to the closest most appropriate Burn Center (San Bernardino County contact ARMC).

<u>CTP with associated burns</u>: transport to the most appropriate trauma hospital.

- Burn patients with associated trauma, in which the burn injury poses the greatest risk of morbidity or mortality should be <u>considered</u> for transport to the closest most appropriate Burn Center. Trauma base hospital contacted shall be made.
- Insert nasogastric/orogastric tube as indicated

#### Manage Special Considerations:

<u>Thermal Burns:</u> Stop the burning process. Do not break blisters. Cover the affected body surface with dry, sterile dressing or sheet.

<u>Chemical Burns:</u> Brush off dry powder, if present. Remove any contaminated or wet clothing. Irrigate with copious amounts of saline or water.

**Tar Burns**: Cool with water, do not remove tar.

<u>Electrical Burns:</u> Remove from electrical source (without endangering self) with a nonconductive material. Cover the affected body surface with dry, sterile dressing or sheet.

**Eye Involvement:** Continuous flushing with NS during transport. Allow patient to remove contact lenses if possible.

## **Manage Special Considerations:**

<u>Electrical Burns:</u> Monitor for dysrhythmias, treat according to ACLS guidelines and ICEMA policies.

• Electrical injuries that result in cardiac arrest shall be treated as medical arrests.

<u>Respiratory Distress:</u> Intubate patient if facial/oral swelling are present or if respiratory depression or distress develops due to inhalation injury.

• Nebulized Albuterol 2.5mg with Atrovent 0.5mg, may repeat two (2) times.

<u>Deteriorating Vital Signs:</u> Transport to the closest most appropriate receiving hospital. Contact base hospital.

Adult Burns REFERENCE: 9003 Page: 3 of 4

#### **45-Day Public Comment Period 4/10/08 – 5/28/08**

#### ALS Continued **BLS** Continued **Pulseness and Apneic:** Transport to the closest most appropriate receiving hospital and treat according to ACLS guidelines and ICEMA policies. Contact base hospital. Determination of Death on Scene: Refer to Determination of Death on Scene: Refer to Reference Protocol # 14007 Determination of Death on Reference Protocol # 14007 Determination of Death on Scene. **Precautions and Comments:** • High flow oxygen is essential with known or potential respiratory injury. Beware of possible smoke inhalation. • Contact with appropriate advisory agency may be necessary for hazardous materials, decontamination or patient contact. • Do not apply ice or ice water directly to skin surfaces, as additional injury will result. Base Hospital Orders: May order additional: medications; • fluid boluses.

#### REFERENCE PROTOCOLS

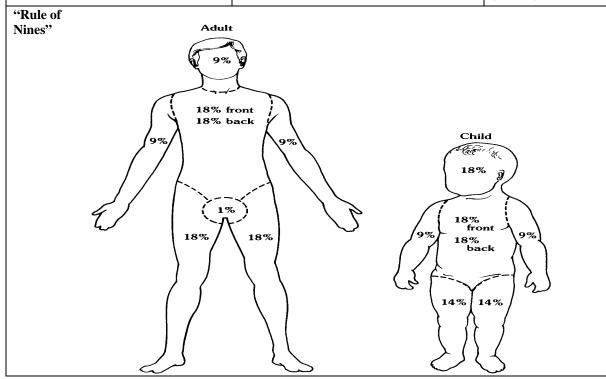
Protocol	
<u>Number</u>	Protocol Name
1001	General Patient Care Guidelines
4001	External Jugular Vein Access
4009	Oral Endotracheal Intubation
4021	Insertion of Nasogastric/Orogastric Tube
4026	Intraosseous Infusion IO
4029	Nasotracheal Intubation
4030	Needle Cricothyrotomy
4035	Axial Spinal Stabilization
4050	Esophageal Tracheal Airway Device
6015	Adult Cardiac Arrest
8005	Trauma Triage Criteria and Destination Policy
9001	Burn Criteria and Destination Policy
14007	Determination of Death on Scene

Adult Burns REFERENCE: 9003 Page: 4 of 4

## **45-Day Public Comment Period 4/10/08 – 5/28/08**

#### **Burn Classification Chart**

ADULT BURN CLASSIFICATION CHART	PEDIATRIC BURN CLASSIFICATION CHART	DESTINATION
MINOR – ADULT  • < 10% TBSA • < 2% Full Thickness	MINOR - PEDIATRIC  • < 5% TBSA • < 2% Full Thickness	CLOSEST MOST APPROPRIATE RECEIVING HOSPITAL
MODERATE – ADULT  • 10 - 20% TBSA • 2 - 5% Full Thickness • High Voltage Injury • Suspected Inhalation Injury • Circumferential Burn • Medical problem predisposing to infection (e.g., diabetes mellitus, sickle cell disease)	MODERATE - PEDIATRIC  • 5 – 10% TBSA • 2 – 5% Full Thickness • High Voltage Injury • Suspected Inhalation Injury • Circumferential Burn • Medical problem predisposing to infection (e.g., diabetes mellitus, sickle cell disease)	CLOSEST MOST APPROPRIATE RECEIVING HOSPITAL
MAJOR – ADULT  • >20% TBSA burn in adults • > 5% Full Thickness • High Voltage Burn • Known Inhalation Injury • Any significant burn to face, eyes, ears, genitalia, or joints  "Rule of	MAJOR - PEDIATRIC  • > 10% TBSA • > 5% Full Thickness • High Voltage Burn • Known Inhalation Injury • Any significant burn to face, eyes, ears, genitalia, or joints	CLOSEST MOST APPROPRIATE BURN CENTER  In San Bernardino County, contact: Arrowhead Regional Medical Center (ARMC)



REFERENCE: 9005 EFFECTIVE: DRAFT REVIEW: 07/01/10 Page: 1 of 4

**45-Day Public Comment Period 4/10/08 – 5/28/08** 

#### PEDIATRIC BURNS

Less than 15 Years of Age

Any burn patient meeting Burn Classifications requires expeditious packaging, communication, and transportation to the closest most appropriate receiving hospital.

#### FIELD ASSESSMENT/TREATMENT INDICATORS

Burn Criteria and Destination Policy #9001

#### PEDIATRIC TREATMENT PROTOCOL: BURNS

#### **Base Hospital Contact Shaded in Gray**

# BLS INTERVENTIONS ALS INTERVENTIONS

- Assess environment and extrication as indicated
- Break contact with causative agent (stop the burning process)
- Ensure patent airway, protecting cervical spine as indicated
- Remove clothing and jewelry quickly, if indicated
- Ensure thorough initial assessment
- Oxygen and/or ventilate as needed, O<sub>2</sub> saturation (if BLS equipped)
- Axial spinal stabilization as appropriate
- Treat other life threatening injuries
- Keep patient warm
- Estimate % TBSA burned and depth using the "Rule of Nines"
  - An individual's palm represents 1% of TBSA and can be used to estimate scattered, irregular burns
- Transport to ALS intercept or to the closest most appropriate receiving hospital
- Assemble necessary equipment for ALS procedures under direction of EMT-P and/or assemble pre-load medications as directed, excluding controlled substances.

- Advanced airway as indicated
- **Airway Stabilization:** Burn patients with respiratory compromise, or potential for such, will be transported to the closest most appropriate receiving hospital for airway stabilization.
- Monitor ECG
- IV/IO Access: Moderate to Severe Burns. Warm IV fluids when available.

#### **Unstable:**

Vital signs (age appropriate) and/or signs of inadequate tissue perfusion, start 2<sup>nd</sup> IV access.

o Administer 20ml/kg NS bolus IV/IO, may repeat once.

#### **Stable:**

Vital signs (age appropriate) and/or signs of adequate tissue perfusion.

- $\leq$  5 years of age
- o IV NS 150ml/hour
- > 5 years of age < 15 years of age
- o IV NS 250ml/hour
- •Treat pain as indicated:

IV Pain Relief: Morphine Sulfate 0.1mg/kg IV/IO slowly, do not exceed 5mg increments, may repeat every 5 minutes to a maximum of 20mg IV/IO when the patient maintains age appropriate vital signs and adequate tissue perfusion. Document vital signs every 5 minutes while medicating for pain, and reassess the patient.

Pediatric Burns REFERENCE: 9005 Page: 2 of 4

#### **45-Day Public Comment Period 4/10/08 – 5/28/08**

#### **BLS** Continued

#### ALS Continued

IM Pain Relief: Morphine Sulfate 0.2mg/kg IM, 10mg IM maximum. Document vital signs and reassess the patient.

• Transport to appropriate facility:

<u>Minor Burn Classification</u>: transport to the closest most appropriate receiving hospital.

<u>Moderate Burn Classification</u>: transport to the closest most appropriate receiving hospital.

<u>Major Burn Classification</u>: transport to the closest most appropriate Burn Center (San Bernardino County contact ARMC).

<u>CTP with associated burns</u>: transport to the most appropriate trauma hospital.

- Burn patients with associated trauma, in which the burn injury poses the greatest risk of morbidity or mortality should be <u>considered</u> for transport to the closest most appropriate Burn Center. Trauma base hospital contacted shall be made.
- Insert nasogastric/orogastric tube as indicated

#### Manage Special Considerations:

<u>Thermal Burns:</u> Stop the burning process. Do not break blisters. Cover the affected body surface with dry, sterile dressing or sheet.

<u>Chemical Burns:</u> Brush off dry powder, if present. Remove any contaminated or wet clothing. Irrigate with copious amounts of saline or water.

<u>Tar Burns</u>: Cool with water, do not remove tar.

<u>Electrical Burns:</u> Remove from electrical source (without endangering self) with a nonconductive material. Cover the affected body surface with dry, sterile dressing or sheet.

**Eye Involvement:** Continuous flushing with NS during transport. Allow patient to remove contact lenses if possible.

## Manage Special Considerations:

**Electrical Burns:** Monitor for dysrhythmias, treat according to PALS guidelines and ICEMA policies.

• Electrical injuries that result in cardiac arrest shall be treated as medical arrests.

**Respiratory Distress:** Intubate patient if facial/oral swelling are present or if respiratory depression or distress develops due to inhalation injury.

- 1 day to 12 months old Nebulized Albuterol 2.5mg with Atrovent 0.25mg, may repeat two (2) times.
- 1 year to < 15 years old Albuterol 2.5mg with Atrovent 0.5mg, may repeat two (2) times.

Pediatric Burns REFERENCE: 9005 Page: 3 of 4

#### **45-Day Public Comment Period 4/10/08 – 5/28/08**

## **BLS** Continued ALS Continued **Deteriorating Vital Signs:** Transport to the closest most appropriate receiving hospital. Contact base hospital. Pulseness and Apneic: Transport to the closest most appropriate receiving hosptial and treat according to PALS guidelines and ICEMA policies. Contact base hospital. **Determination of Death on Scene:** Refer to **Determination of Death on Scene:** Reference Protocol # 14007 Determination of Death Reference Protocol # 14007 Determination of Death on on Scene. Scene. **Precautions and Comments:** • High flow oxygen, appropriate for age, is essential with known or potential respiratory injury. Beware of possible smoke inhalation. • Contact with appropriate advisory agency may be necessary for hazardous materials, decontamination or patient contact. • Do not apply ice or ice water directly to skin surfaces as additional injury will result. • Do not apply cool dressings or allow environmental exposure, since hypothermia will result in a young child. Base Hospital Orders: May order additional:

#### REFERENCE PROTOCOLS

medications;fluid boluses.

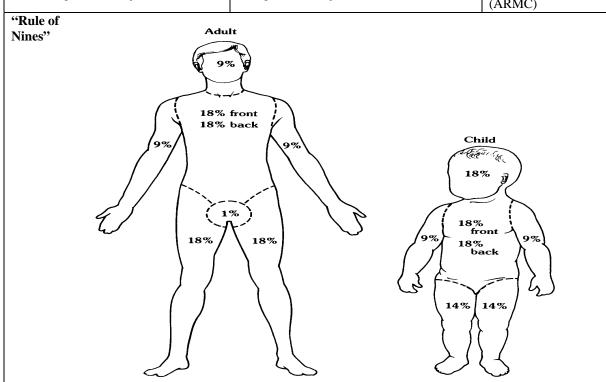
Protocol	
<u>Number</u>	Protocol Name
1001	General Patient Care Guidelines
4011	Oral Endotracheal Intubation - Pediatric
4021	Insertion of Nasogastric/Orogastric Tube
4023	Needle Thoracostomy
4026	Intraosseous Infusion IO
4030	Needle Cricothyrotomy
4035	Axial Spinal Stabilization
7001	Pediatric Cardiac Arrest
7007	Pediatric Altered Level of Consciousness
8005	Trauma Triage Criteria and Destination Policy
9001	Burn Criteria and Destination Policy
14004	Reporting Incidents of Suspected Child, Dependent Adult, or elder Abuse/Neglect
14007	Determination of Death on Scene

Pediatric Burns REFERENCE: 9005 Page: 4 of 4

## **45-Day Public Comment Period 4/10/08 – 5/28/08**

#### **Burn Classification Chart**

ADULT BURN CLASSIFICATION CHART	PEDIATRIC BURN CLASSIFICATION CHART	DESTINATION
MINOR – ADULT  • < 10% TBSA • < 2% Full Thickness	MINOR - PEDIATRIC	CLOSEST MOST APPROPRIATE RECEIVING HOSPITAL
MODERATE – ADULT  • 10 - 20% TBSA • 2 - 5% Full Thickness • High Voltage Injury • Suspected Inhalation Injury • Circumferential Burn • Medical problem predisposing to infection (e.g., diabetes mellitus, sickle cell disease)	MODERATE - PEDIATRIC  • 5 – 10% TBSA • 2 – 5% Full Thickness • High Voltage Injury • Suspected Inhalation Injury • Circumferential Burn • Medical problem predisposing to infection (e.g., diabetes mellitus, sickle cell disease)	CLOSEST MOST APPROPRIATE RECEIVING HOSPITAL
MAJOR – ADULT  • >20% TBSA burn in adults • > 5% Full Thickness • High Voltage Burn • Known Inhalation Injury • Any significant burn to face, eyes, ears, genitalia, or joints  "Rule of	MAJOR - PEDIATRIC  • > 10% TBSA • > 5% Full Thickness • High Voltage Burn • Known Inhalation Injury • Any significant burn to face, eyes, ears, genitalia, or joints	CLOSEST MOST APPROPRIATE BURN CENTER  In San Bernardino County, contact: Arrowhead Regional Medical Center (ARMC)



# 45 Day Public Comments - TRAUMA AND BURN PROTOCOLS April 10 - May 28, 2008

PROTOCOL	AGENCY	PAGE # SECTION #	COMMENT	RESPONSE